

**PATENT**

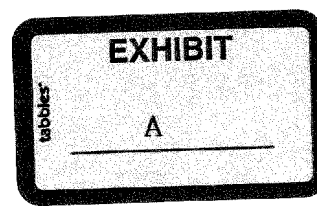
**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Serial No.: 09/558,329  
Filed: 04/25/2000  
Art Unit: 1711  
Examiner: Cheryl Juska  
Applicant: Stern et al.  
Title: Stitch Bonded Fabric and Fluid-Retaining Fabric Made Therewith  
Conf. No.: 9722

**DECLARATION OF E. LINWOOD WRIGHT  
PURSUANT TO 37 C.F.R. § 1.132**

I, E. Linwood Wright, declare as follows:

1. I make this declaration in support of the above-captioned application, and submit that I am skilled in the art to which the invention pertains. I have attached a copy of my curriculum vitae to this declaration.
2. I earned a Bachelor of Science degree in Chemistry, and a Master of Science degree in Physical Chemistry, both from Duke University in Durham, North Carolina. In addition, I completed the Executive Program at the University of Virginia's Darden Graduate School of Business in Charlottesville, Virginia.
3. I have worked in the textile industry for the past forty-nine years, having spent all of that time in various positions with Dan River Inc. of Danville, Virginia. I began my career with Dan River in 1956 as a research chemist, had numerous roles and responsibilities in research and development, culminating in my role as Vice President of Research and Development. I retired in 2004 as Vice President of Quality and Development. Since that time, I have continued to work with Dan River on a consulting basis.



4. For over thirty years during my tenure at Dan River, I was responsible for a wide variety of fabrics, including design thereof, fabric quality, and product quality, such fabrics being used in apparel and for home and industrial products. Over that time, I have gained extensive experience with, and broad knowledge about, textiles, textile materials, and textile processing, as well as the techniques, including stitching and knitting techniques, used for the construction of textile products, such as the stitch bonded fabric of the present invention. In addition, my primary personal responsibility for the last twenty years has been product, and end-use, innovation.

5. During my career, I also have chaired various professional association committees, including committees directed to product lines that encompass apparel, upholstery, bedding, and other home textile products. I chaired both the consumer products committee and the home textiles subcommittee of the former American Textile Manufacturer's Institute, and I currently chair the home textiles committee of the National Textile Association, which is concerned primarily with top of the bed items.

6. Dan River Inc. is a textile supplier to the assignee of the above-referenced application.

7. I believe that I am qualified to address issues regarding the stitch bonded fabric of the present invention, including the construction thereof, as well as the distinct differences between said stitch bonded fabric and the textile products in the prior art currently cited by Examiner.

8. I am familiar with the prosecution of the above-referenced matter. In particular, I have read U.S. Patent No. 5,902,757 ("Stern") and the pending claims (as presented in the April 29, 2005 reply), the August 5, 2005 office action, including the cited prior art<sup>1</sup>, the May 14, 2004 reply brief, and the March 15, 2004 Examiner's Answer.

9. Having considered these materials, I understand that Appellant, in response to the Board's Decision, amended each of the independent claims in their April 29, 2005 reply further defining the stitch bonded yarn face(s) of the present invention to be effectively continuous such that the corresponding web surface is not generally exposed at the associated yarn face. I further understand that Examiner has continued to reject all pending claims, 1-87, based upon one or more of Sternlieb, Lefkowitz, Ott, Gillies, Kyle, and Taylor. More specifically, one of Examiner's primary positions is that the newly added claim language "effectively continuous" and "not generally exposed," which further defines the stitch bonded yarn face(s), is too subjective to be relied upon for distinguishing the present invention from the prior art. I respectfully disagree.

10. One skilled in the art appreciates that the additional terminology further defining the yarn faces of the present invention, in fact, provides a sufficient level of objectivity which can be relied upon for distinguishing the present invention from the prior art. Notably, Stern clearly discloses that the yarns for providing the yarn faces of Applicants' stitch bonded fabric are "of a sufficient density" such that the yarn segments 18', 18'' cooperate to define, respectively, top and bottom yarn faces of fabric. See col. 2, lines 52-59. To provide these yarn

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<sup>1</sup> U.S. Patent No. 4,026,129 ("Sternlieb"), U.S. Patent No. 4,181,514 ("Lefkowitz"), U.S. Patent No. 4,675,226 ("Ott"), U.S. Patent No. 5,356,402 ("Gillies"), U.S. Patent No. 4,128,686 ("Kyle"), and European Patent No. 261,904 ("Taylor").

faces of fabric, Stern further explains that the yarns 18 are knitted in a flat stitch construction across the felt web upper surface to form underlaps as at 30 in FIG. 3 and overlaps as at 32 in FIG. 4, such underlaps 30 and overlaps 32 being the result of the usual knit construction provided by stitch bonding, such as with existing Malipol-type machines as are known in the art. See col. 2, line 66 to col. 3, line 5. Noticeably, a benefit of such a yarn face is that the fabric, such as for an incontinent pad, provides a comfortable surface for a patient at the top yarn face. In addition, the bottom yarn face provides a surface that may be used, for example, for adhesive connection to a barrier layer without interfering with either the structural rigidity or absorbency provided by the felt web. Understandably, one of ordinary skill in the art is readily able to optimize the spacing between the rows of stitch bonded yarns, as based upon yarn density, for a particular application to provide the effectively continuous yarn face(s) of fabric, such stitched yarn face not allowing the felt web surface to be generally exposed upon close inspection. In other words, the felt, or felt web, cannot be readily seen, for example, through the top yarn face unless closely inspected using magnification and does not significantly protrude felt fibers against the patient's skin. Accordingly, "effectively continuous" means that the felt web surface is "not generally exposed," i.e. not readily viewable through the yarn face without magnification and not readily felt. Clearly, the effectively continuous nature of the yarn face is definite and a standard is provided for one of ordinary skill in the art to determine the scope of the claimed invention for distinguishing the present invention from the prior art.

11. To one skilled in the art, neither Sternlieb nor Lefkowitz disclose the stitch bonded yarn face of the present invention. More specifically, the stitch-bonding yarns in the present

case provide an effectively continuous face; whereas stitched knitting yarns 11, 13 in Fig. 7 of Sternlieb are spaced significantly from one another, thereby providing a substantial amount of exposed scrim sheet 9 and web of cardable fibers 1. It is abundantly clear to one skilled in the art that Sternlieb fails to teach, disclose or otherwise suggest any yarn face as recited in Applicants' claims. Concerning Lefkowitz, this patent is directed to a filter including a fibrous bat 2 with a number of stitch yarns 3, 4 significantly spaced from one another as shown particularly in Figs. 3 and 7 of that reference.<sup>2</sup> The stitch yarns 3, 4 "comprise metallic monofilament or multi filament yarns or glass multi filament yarns. Such yarns may be used alone or in combination with other non-metallic yarn materials." See col. 3, lines 1-4. Since Lefkowitz is directed to a filter, inherently, a fluid or other medium must pass through the fibrous bat and stitch yarns. Since the stitch yarns are metal, the material being filtered must escape the fibrous bat 2. If the stitch yarns produced an effectively continuous yarn face as claimed in Applicants' invention, then the filtered material is not able to escape the allegedly effectively continuous face. Therefore, the stitch yarns in Lefkowitz cannot be effectively continuous. In addition, Kyle and Taylor also fail to disclose the stitch bonded yarn face of the present invention insofar as neither reference teaches, suggests, or implies providing a yarn face that is effectively continuous so that the felt web is not generally exposed.

12. Also, in rejecting the current claims, Examiner up to this point has relied heavily on her own definition of Applicants' "felt web," such definition being "any nonwoven, web, or batting comprising discontinuous or staple fibers." In my expert opinion, Examiner has

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<sup>2</sup> The identified figures in Sternlieb and Lefkowitz are considered to accurately portray those respective inventions in contrast to Figs. 3 and 4 of the present case which are "greatly exaggerated" as expressly stated in the specification.

improperly defined Applicants' "felt web" and has provided a grossly, overly broad interpretation. The use of "web," in "felt web," in Stern is clearly understood to mean simply "a layer or sheet" such that a "felt web" is a felt layer, i.e. a layer of felt. Concerning "felt," this is a well known term of art in the textile industry and, as of the time of the invention, is understood to mean a nonwoven sheet of matted material of wool, hair, fur, or manufactured fibers (e.g. polyester, polypropylene, or rayon) made by a combination of mechanical and chemical action, pressure, moisture, and heat, such matted material has structural integrity, i.e. tensile strength, in all directions. Due to the well understood meaning of felt in the textile industry, it is a simple exercise for one skilled in the art to recognize textiles that, in fact, are not felt webs. Accordingly, for purposes of differentiating the references cited against Applicant by Examiner in the August 5, 2005, I have conducted this exercise below.

13. Generally, Sternlieb, Lefkowitz, Ott, and Gillies individually, or in combination, fail to disclose a stitch bonded fabric which includes a felt. More specifically, Sternlieb discloses a dimensionally stable fabric including a layer of carded fibers reinforced by a woven fabric layer, said layer of carded fiber being unbonded, uncompacted, and unmatted and of intermingled, non-parallel fibers. To one skilled in the art, these layers of unmatted carded fibers and of woven fabric are not felts. Lefkowitz discloses a stitch knitted filter for high temperature fluids including a batt of relatively brittle fibers. To one skilled in the art, a batt of relatively brittle, unmatted fibers is not a felt. Ott discloses a stitch bonded composite wiper including a middle layer of cellulose natural fibers and outer layers of layers of either continuous filament thermoplastic fibers, meltblown thermoplastic microfibers or rayon fibers, such

unmatted inner and outer layers are not felt to one skilled in the art. Finally, Gilles discloses a reusable diaper including a median layer of carded and crosslaid viscose rayon fibers having a cross-section of substantially rigid multi-limbed configuration, this media layer is stitch bonded. To one skilled in the art, this median layer of carded and crosslaid viscose rayon fibers is not matted and, thus, not a felt.

14. Accordingly, none of Examiner's cited art discloses the combination of Applicants' stitch bonded yarn faces and felt, or felt web. And, while Ott and Gilles appear to disclose stitch bonded yarn faces and Kyle and Taylor appear to disclose a felt, or felt web, there simply is no motivation for one skilled in the art to modify or combine any of these references to arrive at Applicants' stitch bonded fabric, as is further explained next.

15. Kyle appears to provide an assembly for the management of incontinence which includes a layer of non-absorbent hydrophobic textile material, identified as a needled felt, through which urine can freely pass and a layer of absorbent hydrophilic textile material, such as a non-woven felted fabric, behind the non-absorbent layer to receive and absorb urine passing through the non-absorbent layer. These layers may be sewn, bonded, quilted or welded together. Advantageously, the assembly of Kyle purportedly provides absorbent properties superior to conventional paper incontinence pads. However, noticeably lacking from Kyle's assembly is Applicant's yarn face for providing patient comfort. In fact, there simply is no teaching, suggestion, or implication in Kyle motivating one of skill in the art to provide the assembly with an effectively continuous stitch bonded yarn face as Kyle clearly concerns itself with providing only a better absorbing incontinent pad. And, even assuming *arguendo* that one would consider the possibility that stitch bonding may be used to integrate the two layers of material in Kyle, there still lacks any motivation whatsoever to provide Kyle's incontinent pad with the specific

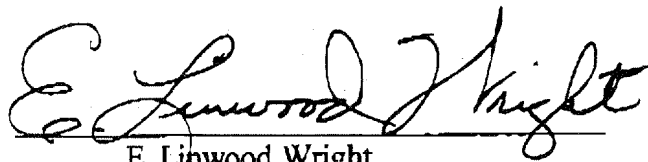
type of stitch bonded yarn faces, i.e. the effectively continuous yarn faces, of Ott and/or Gilles. As such, one skilled in the art simply is not motivated to provide Applicants' yarn face of fabric about the felt layer(s) of Kyle. In addition, Taylor, similar to Kyle, provides no teaching, suggestion, or implication to provide a yarn face, like Applicants, on its liquid absorbing pad. In fact, it would require destruction, i.e. complete removal, of the outer layer(s) of non-absorbent textile material of the pad so that the inner layer of nonwoven fibrous mat could be stitch bonded.

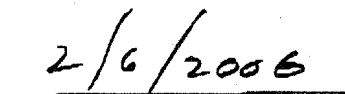
16. Furthermore, it should be emphasized that Gilles' stitch bonded median layer, as already discussed above, is incorporated between outer layers 12 and 16, thereby effectively hiding within the diaper any yarn face presented on the surface of the median layer. In stark contrast, Applicants' stitch bonded fabric includes a stitch bonded yarn face on the outside of the product to provide a soft, comfortable surface for a patient. Clearly, it is nonsensical, certainly to one skilled in the art, to combine Gilles' stitch bonded median layer with any reference, let alone Kyle, to provide Applicants' stitch bonded fabric having a yarn face that is situated on the outside of the product. Specifically concerning Ott, one skilled in the art also is not motivated to combine the wiper product of Ott with an incontinent pad, such as is disclosed in Kyle, in an effort to arrive at Applicants' fabric face product. Finally, it is noted that neither Ott nor Gilles teach, suggest, or imply replacing their stitch bonded fabrics with a felt insofar as each of the non-felt fabrics of Gilles and Ott are purposefully selected to obtain desired outcomes. Accordingly, one skilled in the art is not motivated to modify or combine one or more of Ott, Gilles, Kyle, and Taylor.

17. For all of the above reasons, one skilled in the art would neither look to Sternlieb, Lefkowitz, Ott, Gillies, Taylor nor Kyle, alone or in any combination, to arrive at Applicants' claimed invention, i.e. a stitch bonded fabric.



I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the above-referenced patent application as originally filed and/or any patents to be issued and/or granted thereon.

  
E. Linwood Wright

  
Date

E. Linwood Wright  
714 Lansbury Drive  
Danville, VA 24540-1941  
Phone: 434-836-2511 (home)  
434-799-4874 (business)  
434-250-2041 (mobile)

Current status: Retired, and working under contract for Dan River Inc. as a consultant

Most recent employer: Dan River Inc., Danville, VA

Most recent position: Vice-president, Quality and Development

Years with Dan River: 49

Job placements over years (all at Dan River Inc.):

1956-1960-Research Chemist

1960-1971-Group Leader, Applied Finishing Research

1971-1975-Director of Technical Services

1975-1979-Director of Research

1979-1984-Vice-President, Research and Development

1984-1986-President, Dan River Service Corporation

1986-1988-Vice-President, Research and Development

1988-2004-Vice-President, Quality and Development

Education: Bachelor of Science, Chemistry-Duke University  
Master of Science, Physical Chemistry-Duke University  
The Executive Program, Darden Graduate School of Business, University of Virginia

Professional Affiliations: Current Chairman, Home Textiles Committee, National Textile Association  
Senior member, American Society for Quality  
Senior member, American Association of Textile Chemists and Colorists  
Past Chairman, Bed & Bath Sub-committee, American Textile Manufacturers Institute  
Past Chairman, Consumer Affairs Committee, American Textile Manufacturers Institute  
Past vice-chairman, Executive Committee for Research, American Association of Textile Chemists and Colorists  
Instructor, N C State University, College of Textiles, Extension Department

Civic activities: Member, Council, City of Danville, VA, 1986-1998  
Vice-mayor, City of Danville, VA, 1990-1996  
Mayor, City of Danville, VA, 1996-1998

Past president, Kiwanis Club of Danville, VA  
Past president, Danville Museum of Fine Arts and History  
Past president, Danville Concert Association  
Past chairman, Virginia Philpott Manufacturing Extension  
Partnership  
Past president, Danville Area Association for the Arts and  
Humanities  
Member, Danville Development Council  
Past chairman, Danville Development Council  
Vice-chairman, Danville Regional Health Foundation  
President, Future of the Piedmont Foundation  
Chairman, Board of Trustees, Institute for Advanced  
Learning and Research